UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,570	01/20/2004	Takahiko Murata	60188-754	8016

7590   08/09/2007

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ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/759,570	MURATA ET AL.
	Examiner	Art Unit
	Albert H. Cutler	2622

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 June 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>4,5,12 and 14-19</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>4,5,12 and 14-19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to communication filed on June 20, 2007.

Response to Arguments

2.   Applicant's arguments with respect to claims 4, 5 and 12 have been considered

but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 4, 5, 12, and 14-19 are rejected under 35 U.S.C. 102(b) as being

anticipated by Watanabe(Japanese Patent Application Publication 08-154253).

Consider claim 4, Watanabe teaches:

A solid state imaging apparatus(drawing 1), comprising:

a plurality of pixels two-dimensionally arranged in a vertical direction and a

horizontal direction wherein each of the plurality of pixels has a color filer having a

different color from color filters of vertically or horizontally adjacent pixels(See drawing

1, a plurality of pixels with different color filters labeled a, b, c, and d are arranged in a

two-dimensional pattern, paragraph 0014.); and

a signal output circuit(12 and 13) configured to perform two types of operations,

wherein the signal output circuit(12 and 13) includes:

a first shift register(Number 12 represents a plurality of perpendicular shift

registers, in essence one two dimensional shift register, paragraph 0014.) for

performing sequential scanning to all of the plurality of the pixels either in a vertical or a

horizontal direction(The shift register(12) performs line-sequential(i.e. sequential)

scanning of all of the plurality of pixels in the vertical direction, paragraph 0014.) and

a second shift register(13) for performing scanning to the plurality of pixels either

in a vertical or a horizontal direction partially in the manner that pixels having color filters

of the same color are continuously scanned(Shift register(13) horizontally scans the

plurality of pixels in the manner that pixels having color filter of the same color are

continuously scanned. See drawing 1, the bottom of drawing 2, paragraphs 14 and 15.

Like colored pixel charges are output to shift register(13) every ½ cycle and are

subsequently scanned together.).

Consider claim 5, Watanabe teaches:

A solid state imaging apparatus(drawing 1) comprising:

a plurality of pixels two-dimensionally arranged in a vertical direction and a

horizontal direction wherein each of the plurality of pixels has a color filer having a

different color from color filters of vertically or horizontally adjacent pixels(See drawing

1, a plurality of pixels with different color filters labeled a, b, c, and d are arranged in a

two-dimensional pattern, paragraph 0014.); and

a signal output circuit(11, 12 and 13) configured to perform two types of operations,

wherein the signal output circuit(11, 12 and 13) includes:

a shift register(11) for performing sequential scanning to all of the plurality of pixels either in a vertical or a horizontal direction(Number 11 represents a plurality of perpendicular shift registers, in essence one two dimensional shift register, paragraph 0014, which performs scanning to all of the plurality of pixels in the vertical direciton.) and

an output circuit(12 and 13) for outputting charge signals from the shift register(11), the output circuit configured to switch between a first output method in which the charge signals are output so that charge signals of all pixels arranged in the vertical direction or the horizontal direction are sequentially output(The shift register(12) performs line-sequential(i.e. sequential) scanning of all of the plurality of pixels(i.e. performs a first output method) in the vertical direction, paragraph 0014.) and a second output method in which the charge signals are output so that charge signals of pixels having color filters of the same color are partially continuously output(Shift register(13) horizontally scans the plurality of pixels(i.e. performs a second output method) which are output from the vertical shift register(12, i.e. the first output method) in the manner that pixels having color filter of the same color are partially continuously scanned. See drawing 1, the bottom of drawing 2, paragraphs 14 and 15. Like colored pixel charges are output to shift register(13) every ½ cycle and are subsequently scanned together.

This is partially continuously as the pixels having the same color are scanned one line

at a time.).

Consider claim 12, Watanabe teaches:

A camera("Television Camera", paragraph 0002) comprising a solid state

imaging apparatus(drawing 1), wherein the solid state imaging apparatus comprises:

a plurality of pixels two-dimensionally arranged in a vertical direction and a

horizontal direction wherein each of the plurality of pixels has a color filer having a

different color from color filters of vertically or horizontally adjacent pixels(See drawing

1, a plurality of pixels with different color filters labeled a, b, c, and d are arranged in a

two-dimensional pattern, paragraph 0014.); and

a signal output circuit(11, 12 and 13) configured to perform two types of

operations,

wherein the signal output circuit(12 and 13) includes:

a first shift register(Number 12 represents a plurality of perpendicular shift

registers, in essence one two dimensional shift register, paragraph 0014.) for

performing sequential scanning to all of the plurality of the pixels either in a vertical or a

horizontal direction(The shift register(12) performs line-sequential(i.e. sequential)

scanning of all of the plurality of pixels in the vertical direction, paragraph 0014.) and

a second shift register(13) for performing scanning to the plurality of pixels either

in a vertical or a horizontal direction partially in the manner that pixels having color filters

of the same color are continuously scanned(Shift register(13) horizontally scans the

plurality of pixels in the manner that pixels having color filter of the same color are

continuously scanned. See drawing 1, the bottom of drawing 2, paragraphs 14 and 15.

Like colored pixel charges are output to shift register(13) every ½ cycle and are

subsequently scanned together.).

Consider claim 14 and as applied to claim 4 above, Watanabe further teaches:

the second shift register repeats an operation which continuously outputs signals

of the plurality of pixels having color filters of the same color(See drawing 1, the bottom

of drawing 2, paragraphs 14 and 15. Like colored pixel charges are output to shift

register(13) every ½ cycle and are subsequently scanned together. This operation is

repeated as the pixels having the same color are scanned one line at a time.), on a

basis of each pixel mixture unit consisting of a plurality of pixels(See the bottom of

drawing 2. A pixel mixture unit comprising a plurality of pixels, for example "dddd", is

output by the second shift register(13).).

Consider claim 15, and as applied to claim 5 above, Watanabe further teaches:

the second output method repeats, after continuously outputting signals of the

plurality of pixels having color filters of a same color, an operation which continuously

outputs signals of the plurality of pixels having color filters of a different color, on a basis

of each pixel mixture unit consisting of a plurality of pixels(See the bottom of drawing 2,

paragraphs 14 and 15. A pixel mixture unit comprising a plurality of pixels, for example

"dddd", is output by the second shift register(13). This pixel mixture unit is followed by a repeat operation which outputs pixel mixture units "aaaa", "bbbb", and so on.).

Consider claim 16, and as applied to claim 4 above, Watanabe further teaches that the first register performs a regular operation, and a second shift register performs a pixel mixture operation(The first register(12) line-sequentially scans all of the pixels(i.e. performs a regular operation), and the second shift register(13) outputs pixel units consisting of a plurality of pixels having the same color(i.e. performs a pixel mixture operation), paragraphs 14 and 15.).

Consider claim 17, and as applied to claim 16 above, Watanabe further teaches that a static mode is executed by the regular operation and a moving image mode is executed by the pixel mixture operation(The regular operation and the pixel mixture operation are both implemented during one readout of the image sensor, with the regular operation being followed by the pixel mixture operation, paragraphs 14 and 15. Therefore, a static image mode using the CCD taught by Watanabe would be executed by both operations(i.e. by the regular operation followed by the pixel mixture operation), and a moving image mode using the CCD taught by Watanabe would similarly be executed by both operations(i.e. by the pixel mixture operation subsequent to the regular operation).).

Consider claim 18, and as applied to claim 5 above, Watanabe further teaches that the first output method is a sequential scanning method(The shift register(12) performs a line-sequential(i.e. sequential) method of scanning of all of the plurality of pixels in the vertical direction, paragraph 0014.), and the second output method is a pixel mixture scanning method(See the bottom of drawing 2, paragraphs 14 and 15. A pixel mixture unit comprising a plurality of pixels, for example "dddd", is output by the second shift register(13) during the second output method. This pixel mixture unit is followed by a repeat operation which outputs pixel mixture units "aaaa", "bbbb", and so on.).

Consider claim 19, and as applied to claim 18 above, Watanabe further teaches that a static image mode is executed by the sequential scanning method, and a moving image mode is executed by the pixel scanning method(The regular operation and the pixel mixture operation are both implemented during one readout of the image sensor, with the regular operation being followed by the pixel mixture operation, paragraphs 14 and 15. Therefore, a static image mode using the CCD taught by Watanabe would be executed by both operations(i.e. by the regular operation followed by the pixel mixture operation), and a moving image mode using the CCD taught by Watanabe would similarly be executed by both operations(i.e. by the pixel mixture operation subsequent to the regular operation).).

Conclusion

5.   Any objections made by the Examiner to the specification and claims are hereby

withdrawn in view of Applicant's response.

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-

1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

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SUPERVISORY PATENT EXAMINER